SAFETY DATA SHEET
ECO-STAR TURBO BOOST

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: ECO-STAR TURBO BOOST
Other means of identification: not applicable
Recommended use: Laundry detergent
Restrictions on use: Reserved for industrial and professional use.
Product dilution information: 0.06 % - 0.16 %
Company: Ecolab Inc.
370 N. Wabasha Street
St. Paul, Minnesota USA 55102
1-800-352-5326
Emergency telephone: 1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)
Issuing date: 08/19/2014

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Product AS SOLD
Flammable liquids: Category 3
Skin irritation: Category 2
Eye irritation: Category 2A
Skin sensitization: Category 1

Product AT USE DILUTION
Not a hazardous substance or mixture.

GHS Label element
Product AS SOLD
Hazard pictograms: 

Signal Word: Warning

Hazard Statements: Flammable liquid and vapor. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

Precautionary Statements: Prevention:
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**Response:**
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**
Store in a well-ventilated place. Keep cool.

**Disposal:**
Dispose of contents/ container to an approved waste disposal plant.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Product AS SOLD**
Pure substance/mixture : Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-Limonene</td>
<td>5989-27-5</td>
<td>30 - 60</td>
</tr>
<tr>
<td>Fattyalcohol ethoxylates &gt; 5EO</td>
<td>68131-39-5</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Fattyalcohol ethoxylates =/&lt; C15 and =/&lt; 5EO</td>
<td>68213-23-0</td>
<td>10 - 30</td>
</tr>
<tr>
<td>a-Olefinsulphonates</td>
<td>36445-71-3</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

**Product AT USE DILUTION**
No hazardous ingredients

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**SECTION 4. FIRST AID MEASURES**

**Product AS SOLD**
In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician : Treat symptomatically.
Product AT USE DILUTION
In case of eye contact: Rinse with plenty of water.
In case of skin contact: Rinse with plenty of water.
If swallowed: Rinse mouth. Get medical attention if symptoms occur.
If inhaled: Get medical attention if symptoms occur.

See toxicological information (Section 11)

SECTION 5. FIRE-FIGHTING MEASURES

Product AS SOLD
Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: High volume water jet

Specific hazards during fire fighting:
Fire Hazard
Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Hazardous combustion products: Decomposition products may include the following materials:
- Carbon oxides
- Nitrogen oxides (NOx)
- Sulfur oxides
- Oxides of phosphorus

Special protective equipment for fire-fighters: Use personal protective equipment.

Specific extinguishing methods: Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD
Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Environmental precautions: Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up: Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION
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Personal precautions, protective equipment and emergency procedures:
Refer to protective measures listed in sections 7 and 8.

Environmental precautions:
No special environmental precautions required.

Methods and materials for containment and cleaning up:
Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Product AS SOLD
Advice on safe handling:
Do not get in eyes, on skin, or on clothing. Keep away from fire, sparks and heated surfaces. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Wash hands thoroughly after handling.

Conditions for safe storage:

Storage temperature:
0 °C to 40 °C

Product AT USE DILUTION
Advice on safe handling:
Wash hands after handling. For personal protection see section 8.

Conditions for safe storage:
Keep out of reach of children. Store in suitable labeled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD
Ingredients with workplace control parameters:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Form of exposure</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d-Limonene</td>
<td>5989-27-5</td>
<td>TWA</td>
<td>20 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Engineering measures:
Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment:

Eye protection:
Safety glasses with side-shields

Hand protection:
Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection:
No special protective equipment required.

Respiratory protection:
No personal respiratory protective equipment normally required.
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling.

**Product AT USE DILUTION**

**Engineering measures**: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Personal protective equipment**

**Eye protection**: No special protective equipment required.

**Hand protection**: No special protective equipment required.

**Skin protection**: No special protective equipment required.

**Respiratory protection**: No personal respiratory protective equipment normally required.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Product AS SOLD</th>
<th>Product AT USE DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>clear, light yellow</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>citrus</td>
<td>citrus</td>
</tr>
<tr>
<td>pH</td>
<td>4.5 - 6.5, 100 %</td>
<td>5.0 - 7.0</td>
</tr>
<tr>
<td>Flash point</td>
<td>51 °C open cup, Sustains combustion</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 100 °C</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>0.87 - 0.91</td>
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</tr>
<tr>
<td>Water solubility</td>
<td>slightly soluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>no data available</td>
<td></td>
</tr>
</tbody>
</table>
Molecular weight : no data available
VOC : no data available

SECTION 10. STABILITY AND REACTIVITY

Product AS SOLD
Chemical stability : Stable under normal conditions.
Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.
Conditions to avoid : Heat, flames and sparks.
Incompatible materials : None known.
Hazardous decomposition products : Decomposition products may include the following materials:
Carbon oxides
Nitrogen oxides (NOx)
Sulfur oxides
Oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

Potential Health Effects

Product AS SOLD
Eyes : Causes serious eye irritation.
Skin : Causes skin irritation. May cause allergic skin reaction.
Ingestion : Health injuries are not known or expected under normal use.
Inhalation : Health injuries are not known or expected under normal use.
Chronic Exposure : Health injuries are not known or expected under normal use.

Product AT USE DILUTION
Eyes : Health injuries are not known or expected under normal use.
Skin : Health injuries are not known or expected under normal use.
Ingestion : Health injuries are not known or expected under normal use.
Inhalation : Health injuries are not known or expected under normal use.
Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD
Eye contact : Redness, Pain, Irritation
Skin contact : Redness, Irritation, Allergic reactions
Ingestion : No symptoms known or expected.
Inhalation : No symptoms known or expected.

**Product AT USE DILUTION**

<table>
<thead>
<tr>
<th>Contact</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>No symptoms known or expected.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No symptoms known or expected.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No symptoms known or expected.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No symptoms known or expected.</td>
</tr>
</tbody>
</table>

**Toxicity**

**Product AS SOLD**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Acute toxicity estimate: 2,676 mg/kg</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>no data available</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>no data available</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>no data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Reproductive effects</td>
<td>no data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>no data available</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>no data available</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>no data available</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>no data available</td>
</tr>
<tr>
<td>Aspiration toxicity</td>
<td>no data available</td>
</tr>
</tbody>
</table>

**Ingredients**

- **Acute dermal toxicity**
  - d-Limonene
    - LD50 rabbit: > 5,000 mg/kg
  - Fattyalcohol ethoxylates > 5EO
    - LD50 rat: > 2,000 mg/kg
  - Fattyalcohol ethoxylates =/< C15 and =/< 5EO
    - LD50 rabbit: > 2,000 mg/kg

**SECTION 12. ECOLOGICAL INFORMATION**

**Product AS SOLD**

**Ecotoxicity**

- **Environmental Effects**: Very toxic to aquatic life with long lasting effects.

**Product**

- **Toxicity to fish**: no data available
- **Toxicity to daphnia and other**: no data available
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aquatic invertebrates
Toxicity to algae : no data available

Ingredients
Toxicity to fish :
- Fatty alcohol ethoxylates > 5EO
  96 h LC50 Fish: 1.4 mg/l
- Fatty alcohol ethoxylates =/≤ C15 and =/≤ 5EO
  96 h LC50 Fish: 1.5 mg/l
- α-Olefinsulphonates
  96 h LC50 Fish: 3 mg/l

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

Other adverse effects
no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Product AS SOLD
Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.


Product AT USE DILUTION
Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

Product AS SOLD
The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

**Land transport (DOT)**
Not dangerous goods

**Sea transport (IMDG/IMO)**
UN number : 1993
Description of the goods : FLAMMABLE LIQUID, N.O.S. (Limonene)
Class : 3
Packing group : III
Marine pollutant : yes

**Product AT USE DILUTION**
Not intended for transport.

**SECTION 15. REGULATORY INFORMATION**

**Product AS SOLD**

**EPCRA - Emergency Planning and Community Right-to-Know**

**CERCLA Reportable Quantity**
This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**
- Fire Hazard
- Acute Health Hazard

**SARA 302**
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313**
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**California Prop 65**
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

**United States TSCA Inventory**

On TSCA Inventory

**Canadian Domestic Substances List (DSL)**
All components of this product are on the Canadian DSL.

**Australia Inventory of Chemical Substances (AICS)**
On the inventory, or in compliance with the inventory

**New Zealand. Inventory of Chemical Substances**
On the inventory, or in compliance with the inventory

**Japan. ENCS - Existing and New Chemical Substances Inventory**
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not determined

Japan. ISHL - Inventory of Chemical Substances:
not determined

Korea. Korean Existing Chemicals Inventory (KECI):
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS):
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances in China (IECSC):
On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Product AS SOLD
NFPA:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS III:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>0</td>
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</tbody>
</table>

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

Product AT USE DILUTION
NFPA:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
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HMIS III:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

Issuing date: 08/19/2014
Version: 1.0
Prepared by: Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material...
designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.